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(54) Title: NUCLEIC ACID SEQUENCING METHODS

(57) Abstract: The present invention relates to a method of sequencing a target polynucleotide by enzymatic and/or chemical means. The sequencing method includes a method for characterizing multiple alleles in a sample, a method for comparing polynucleotide sequence. The method involves analysing molecules as members of an array. Many target polynucleotides or many segments of a single target polynucleotide can be sequenced simultaneously. In a preferred embodiment the method involves analysing individual molecules within an array and base calls are based on the signals from two or more molecules. A method to prevent non-specific signal in sequencing is also provided. The invention is readily automated, both for small-scale and large-scale operation and relevant algorithms and the composition of kits and systems are provided.

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